# APPENDIX L. UTAH'S THREATENED AND ENDANGERED SPECIES LEASE NOTICES FOR OIL AND GAS AND BLM-COMMITTED CONSERVATION MEASURES

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# APPENDIX L. UTAH'S THREATENED AND ENDANGERED SPECIES LEASE NOTICES FOR OIL AND GAS AND BLM-COMMITTED CONSERVATION MEASURES

## L.1 UTAH'S THREATENED AND ENDANGERED SPECIES NOTICES

The following oil and gas lease notices were developed in consultation with USFWS and are specific to the VPA.

### *L.1.1 LEASE NOTICE: BLACK-FOOTED FERRET*

The Lessee/Operator is given notice that the lands in this parcel may contain occupied black-footed ferret habitat, an endangered species under the Endangered Species Act classified as an experimental, nonessential population in the state of Utah. Avoidance and minimization measures that should be followed are included within the *Cooperative Plan for the Reintroduction and Management of Black-Footed Ferrets in Coyote Basin, Uintah County, Utah* published by the Utah Division of Wildlife Resources in September, 1996. [Please note: the VFO will follow the minimization measures outlined in the *Northeastern Region Black-footed Ferret Management Plan,* published by the Utah Division of Wildlife Resources in April, 2007.] These measures may be updated based on the best available scientific data as it becomes available.

### *L.1.2 LEASE NOTICE-ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN*

The Lessee/Operator is given notice that the lands in this parcel contain Critical Habitat for the Colorado River fish (bonytail, humpback chub, Colorado pikeminnow, and razorback sucker) listed as endangered under the Endangered Species Act (ESA), or these parcels have watersheds that are tributary to designated habitat. Critical habitat was designated for the four endangered Colorado River fishes on March 21, 1994 (59 FR 13374-13400). Designated critical habitat for all the endangered fishes includes those portions of the 100-year floodplain that contain primary constituent elements necessary for survival of the species. Avoidance or use restrictions may be placed on portions of the lease. The following avoidance and minimization measures have been designed to ensure activities carried out on the lease are in compliance with the ESA. Integration, of and adherence to these measures will facilitate review and analysis of any submitted permits under the authority of this lease. Following these measures could reduce the scope of ESA, Section 7 consultation at the permit stage.

Current avoidance and minimization measures include the following:

1. Surveys will be required prior to operations unless species occupancy and distribution information is complete and available. All surveys must be conducted by qualified individual(s);
2. Lease activities will require monitoring throughout the duration of the project. To ensure desired results are being achieved, minimization measures will be evaluated and, if necessary, Section 7 consultation reinitiated;

3. Water production will be managed to ensure maintenance or enhancement of riparian habitat;
4. Avoid loss or disturbance of riparian habitats;
5. Where technically and economically feasible, use directional drilling or multiple wells from the same pad to reduce surface disturbance and eliminate drilling in suitable riparian habitat. Ensure that such directional drilling does not intercept or degrade alluvial aquifers;
6. Conduct watershed analysis for leases in designated critical habitat and overlapping major tributaries in order to determine toxicity risk from permanent facilities;
7. Implement the Utah Oil and Gas Pipeline Crossing Guidance (from BLM National Science and Technology Center);
8. Drilling will not occur within 100-year floodplains of rivers or tributaries to rivers that contain listed fish species or critical habitat; and,
9. In areas adjacent to 100-year flood plains, particularly in systems prone to flash floods, analyze the risk for flash floods to impact facilities, and use closed loop drilling, and pipeline burial or suspension according to the Utah Oil and Gas Pipeline Crossing Guidance, to minimize the potential for equipment damage and resulting leaks or spills.

Water depletions from *any* portion of the Upper Colorado River drainage basin above Lake Powell are considered to adversely affect or adversely modify the critical habitat of the four resident endangered fish species, and must be evaluated with regard to the criteria described in the Upper Colorado River Endangered Fish Recovery Program. Formal consultation with USFWS is required for all depletions. All depletion amounts must be reported to BLM.

Additional measures to avoid or minimize effects to the species may be developed and implemented in consultation with the USFWS between the lease sale stage and lease development stage to ensure continued compliance with the ESA.

### *L.1.3 LEASE NOTICE: LISTED PLANT SPECIES*

The Lessee/Operator is given notice that the lands in this parcel contain suitable habitat for federally listed plant species under the Endangered Species Act (ESA). The following avoidance and minimization measures have been developed to facilitate review and analysis of any submitted permits under the authority of this lease:

1. Site inventories:
   a. Must be conducted to determine habitat suitability;
   b. Are required in known or potential habitat for all areas proposed for surface disturbance prior to initiation of project activities, at a time when the plant can be detected, and during appropriate flowering periods;
   c. Documentation should include, but not be limited to individual plant locations and suitable habitat distributions; and,
   d. All surveys must be conducted by qualified individuals.

2. Lease activities will require monitoring throughout the duration of the project. To endure desired results are being achieved, minimization measures will be evaluated and, if necessary, Section 7 consultation reinitiated.
3. Project activities must be designed to avoid direct disturbance to populations and to individual plants:
    a. Designs will avoid concentrating water flows or sediments into plant occupied habitat;
    b. Construction will occur down slope of plants and populations where feasible; if well pads and roads must be sited upslope, buffers of 100 feet minimum between surface disturbances and plants and populations will be incorporated;
    c. Where populations occur within 200 feet of well pads, establish a buffer or fence the individuals or groups of individuals during and post-construction;
    d. Areas for avoidance will be visually identifiable in the field (e.g., flagging, temporary fencing, rebar, etc.); and,
    e. For surface pipelines, use a 10-foot buffer from any plant locations:
        I. If on a slope, use stabilizing construction techniques to ensure the pipelines don't move towards the population.
4. For riparian/wetland-associated species (e.g. Ute ladies-tresses), avoid loss or disturbance of riparian habitats.
5. Ensure that water extraction or disposal practices do not result in change of hydrologic regime.
6. Limit disturbances to and within suitable habitat by staying on designated routes.
7. Limit new access routes created by the project.
8. Place signing to limit ATV travel in sensitive areas.
9. Implement dust abatement practices near occupied plant habitat.
10. All disturbed areas will be re-vegetated with native species comprised of species indigenous to the area.
11. Post construction monitoring for invasive species will be required.
12. Where technically and economically feasible, use directional drilling or multiple wells from the same pad to reduce surface disturbance and eliminate drilling in plant habitat. Ensure that such directional drilling does not intercept or degrade alluvial aquifers.
13. Lease activities will require monitoring throughout the duration of the project. To ensure desired results are being achieved, minimization measures will be evaluated and, if necessary, Section 7 consultation reinitiated.

Additional measures to avoid or minimize effects to the species may be developed and implemented in consultation with the USFWS between the lease sale stage and lease development stage to ensure continued compliance with the ESA.

### *L.1.4 LEASE NOTICE: MEXICAN SPOTTED OWL*

The Lessee/Operator is given notice that the lands in this parcel contain suitable habitat for Mexican spotted owl, a federally listed species. The Lessee/Operator is given notice that the lands in this lease contain Designated Critical Habitat for the Mexican spotted owl, a federally listed species. Critical habitat was designated for the Mexican spotted owl on August 31, 2004 *(69 FR 53181-53298).* Avoidance or use restrictions may be

placed on portions of the lease. Application of appropriate measures will depend whether the action is temporary or permanent, and whether it occurs within or outside the owl nesting season.

A temporary action is completed prior to the following breeding season leaving no permanent structures and resulting in no permanent habitat loss.

A permanent action continues for more than one breeding season and/or causes a loss of owl habitat or displaces owls through disturbances (i.e. creation of a permanent structure).

The following avoidance and minimization measures have been designed to ensure activities carried out on the lease are in compliance with the Endangered Species Act (ESA). Integration of, and adherence to these measures, will facilitate review and analysis of any submitted permits under the authority of this lease. Following these measures could reduce the scope of ESA, Section 7 consultation at the permit stage.

Current avoidance and minimization measures include the following:

1. Surveys will be required prior to operations unless species occupancy and distribution information is complete and available. All Surveys must be conducted by qualified individual(s).
2. Assess habitat suitability for both nesting and foraging using accepted habitat models in conjunction with field reviews. Apply the conservation measures below if project activities occur within 0.5 mile of suitable owl habitat. Determine potential effects of actions to owls and their habitat.
    a. Document type of activity, acreage and location of direct habitat impacts, type and extent of indirect impacts relative to location of suitable owl habitat.
    b. Document if action is temporary or permanent.
3. Lease activities will require monitoring throughout the duration of the project. To ensure desired results are being achieved, minimization measures will be evaluated and, if necessary, Section 7 consultation reinitiated.
4. Water production will be managed to ensure maintenance or enhancement of riparian habitat.
5. Where technically and economically feasible, use directional drilling or multiple wells from the same pad to reduce surface disturbance and eliminate drilling in canyon habitat suitable for Mexican Spotted Owl nesting.
6. For all temporary actions that may impact owls or suitable habitat:
    a. If the action occurs entirely outside of the owl breeding season (March 1– August 31), and leaves no permanent structure or permanent habitat disturbance, action can proceed without an occupancy survey.
    b. If action will occur during a breeding season, survey for owls prior to commencing activity. If owls are found, activity must be delayed until outside of the breeding season.
    c. Rehabilitate access routes created by the project through such means as raking out scars, re-vegetation, gating access points, etc.
7. For all permanent actions that may impact owls or suitable habitat:
    Survey two consecutive years for owls according to accepted protocol prior to commencing activities.

a. If owls are found, no actions will occur within 0.5 mile of identified nest site. If nest site is unknown, no activity will occur within the designated Protected Activity Center (PAC).
b. Avoid drilling and permanent structures within 0.5 mile of suitable habitat unless surveyed and not occupied.
c. Reduce noise emissions (e.g., use hospital-grade mufflers) to 45 dBA at 0.5 mile from suitable habitat, including canyon rims. Placement of permanent noise-generating facilities should be determined by a noise analysis to ensure noise does not encroach upon a 0.5-mile buffer for suitable habitat, including canyon rims.
d. Limit disturbances to and within suitable habitat by staying on approved routes.
e. Limit new access routes created by the project.

Additional measures to avoid or minimize effects to the species may be developed and implemented in consultation with the USFWS between the lease sale stage and lease development stage to ensure continued compliance with the ESA.

### L.1.5 LEASE NOTICE: CANADA LYNX

The Lessee/Operator is given notice that the lands in this parcel contain potential habitat for Canada lynx, a federally listed species. Avoidance or use restrictions may be placed on portions of the lease. Application of appropriate measures will depend on the nature of the proposed development, as well as proposed timing and location. The following avoidance and minimization measures have been designed to ensure activities carried out on the lease are in compliance with the ESA. Integration of, and adherence to these measures will facilitate review and analysis of any submitted permits under the authority of this lease. Following these measures could reduce the scope of ESA, Section 7 consultation at the permit stage.

Current avoidance and minimization measures are generally adapted from the standards and guidelines listed in Chapter 7 (Conservation Measures) of the LCAS (Ruediger 2000) and include the following:

1. Surveys will be required prior to operations unless species occupancy and distribution information is complete and available. All Surveys must be conducted by qualified individual(s), and be conducted according to protocol.
2. Based on data and information gathered in item 1, lease activities within, or in proximity to, occupied lynx habitats will require monitoring throughout the duration of the project. To ensure desired results are being achieved, minimization measures will be evaluated and, if necessary, Section 7 consultation reinitiated.
3. Avoid all surface disturbing actions within occupied denning habitat.
4. Avoid construction and surface disturbing actions in proximity to potential denning habitat during the breeding season (mid-April to July).
5. Activities involved with routine maintenance and operation will only occur during daytime hours, when lynx are least active.

6. Where technically and economically feasible, wells will be remotely monitored within lynx habitat.
7. Limit disturbance to and within suitable habitat by staying on approved access routes.
8. Limit new access routes created by the project.
9. Dirt and gravel roads traversing lynx habitat (particularly those that could become highways) should not be paved or otherwise upgraded (e.g., straightening of curves, widening of roadway etc.) in a manner that is likely to lead to significant increases in traffic volume, traffic speed, increased width of the cleared ROW, or would foreseeably contribute to development or increases in human activity in lynx habitat. When these types of upgrades are proposed, a thorough analysis of potential direct and indirect impacts to lynx and lynx habitat should be conducted.
10. Minimize impacts to habitats that support lynx prey.
11. Where technically and economically feasible, use directional drilling or multiple wells from the same pad to reduce surface disturbance and to minimize or eliminate drilling in suitable lynx habitat.

Additional measures may also be employed to avoid or minimize effects to the species at the development stage and will be developed and implemented in consultation with the USFWS to ensure continued compliance with the ESA.

### *L.1.6 LEASE NOTICE: UINTA BASIN HOOKLESS CACTUS (SCLEROCACTUS GLAUCUS [= BREVISPINUS AND WETLANDICUS])*

The Lessee/Operator is given notice that the lands in this parcel contain suitable habitat for the Uinta Basin hookless cactus, under the Endangered Species Act (ESA). The following avoidance and minimization measures have been developed to facilitate review and analysis of any submitted permits under the authority of this lease:

In order to minimize effects to the federally threatened Uinta Basin hookless cactus, the BLM in coordination with the USFWS, developed the following avoidance and minimization measures. Integration of and adherence to these measures will help ensure the activities carried out during oil and gas development (including but not limited to drilling, production, and maintenance) are in compliance with the ESA. The following avoidance and minimization measures should be included in the Plan of Development:

1. Pre-project habitat assessments will be completed across 100% of the project disturbance area within potential habitat[1] prior to any ground disturbing activities to determine if suitable Uinta Basin hookless cactus habitat is present.

2. Within suitable habitat[2], site inventories will be conducted to determine occupancy. Inventories:

[1] *Potential habitat* is defined as areas which satisfy the broad criteria of the species habitat description; usually determined by preliminary, in-house assessment.

[2] *Suitable habitat* is defined as areas which contain or exhibit the specific components or constituents necessary for plant persistence; determined by field inspection and/or surveys; may or may not contain Uinta Basin hookless cactus. Habitat descriptions can be found in the U.S. Fish and Wildlife Service's 1990 Recovery Plan and Federal Register Notices for the Uinta Basin hookless cactus (http://www.fws.gov/endangered/wildlife.html).

a. Must be conducted by qualified individual(s) and according to BLM and Service accepted survey protocols,
b. Will be conducted in suitable and occupied[3] habitat for all areas proposed for surface disturbance prior to initiation of project activities and within the same growing season, at a time when the plant can be detected, and during appropriate flowering periods:
    i. *Sclerocactus brevispinus* surveys should be conducted March 15th to June 30th, unless extended by the BLM
    ii. *Sclerocactus wetlandicus* surveys can be done any time of the year, provided there is no snow cover,
c. Will occur within 115' from the centerline of the proposed right-of-way for surface pipelines or roads; and within 100' from the perimeter of disturbance for the proposed well pad including the well pad,
d. Will include, but not be limited to, plant species lists and habitat characteristics, and
e. Will be valid until March 15th the following year for *Sclerocactus brevispinus* and one year from the survey date for *Sclerocactus wetlandicus*.

3. Design project infrastructure to minimize impacts within suitable habitat[2]:
    a. Reduce well pad size to the minimum needed, without compromising safety,
    b. Limit new access routes created by the project,
    c. Roads and utilities should share common right-of-ways where possible,
    d. Reduce width of right-of-ways and minimize the depth of excavation needed for the road bed; where feasible, use the natural ground surface for the road within habitat,
    e. Place signing to limit off-road travel in sensitive areas,
    f. Stay on designated routes and other cleared/approved areas, and
    g. All disturbed areas will be re-vegetated with native species comprised of species indigenous to the area and non-native species that are not likely to invade other areas.

4. Within occupied habitat[3], project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants:
    a. Follow the above (#3) recommendations for project design within suitable habitats,
    b. Buffers of 100 feet minimum between the edge of the right of way (roads and surface pipelines) or surface disturbance (well pads) and plants and populations will be incorporated,
    c. Surface pipelines will be laid such that a 100 foot buffer exists between the edge of the right of way and the plants, use stabilizing and anchoring techniques when the pipeline crosses the habitat to ensure the pipelines don't move towards the population,
    d. Before and during construction, areas for avoidance should be visually identifiable in the field (e.g., flagging, temporary fencing, rebar, etc.),

[3] *Occupied habitat* is defined as areas currently or historically known to support Uinta Basin hookless cactus; synonymous with "known habitat."

e. Where technically and economically feasible, use directional drilling or multiple wells from the same pad,
f. Designs will avoid concentrating water flows or sediments into occupied habitat,
g. Place produced oil, water, or condensate tanks in centralized locations, away from occupied habitat, and
h. Minimize the disturbed area of producing well locations through interim and final reclamation. Reclaim well pads following drilling to the smallest area possible.

5. Occupied Uinta Basin hookless cactus habitats within 100' of the edge of the surface pipelines' right-of-ways, 100' of the edge of the roads' right-of-ways, and 100' from the edge of the well pad shall be monitored for a period of three years after ground disturbing activities. Monitoring will include annual plant surveys to determine plant and habitat impacts relative to project facilities. Annual reports shall be provided to the BLM and the USFWS. To ensure desired results are being achieved, minimization measures will be evaluated and may be changed after a thorough review of the monitoring results and annual reports during annual meetings between the BLM and the USFWS.

6. Reinitiation of Section 7 consultation with the USFWS will be sought immediately if any loss of plants or occupied habitat for the Uinta Basin hookless cactus is anticipated as a result of project activities.

Additional site-specific measures may also be employed to avoid or minimize effects to the species. These additional measures will be developed and implemented in consultation with the USFWS to ensure continued compliance with the ESA.

### *L.1.7 LEASE NOTICE: UTE LADIES'-TRESSES (SPIRANTHES DILUVIALIS)*

The Lessee/Operator is given notice that the lands in this parcel contain suitable habitat for Ute ladies'-tresses under the Endangered Species Act (ESA). The following avoidance and minimization measures have been developed to facilitate review and analysis of any submitted permits under the authority of this lease:

In order to minimize effects to the federally threatened Ute ladies'-tresses, the BLM in coordination with the USFWS, developed the following avoidance and minimization measures. Integration of and adherence to these measures will help ensure the activities carried out during oil and gas development (including but not limited to drilling, production, and maintenance) are in compliance with the ESA. Ute ladies'-tresses habitat is provided some protection under Executive Orders 11990 (wetland protection) and 11988 (floodplain management), as well as section 404 of the Clean Water Act. Although plants, habitat, or populations may be afforded some protection under these regulatory mechanisms, the following conservation measures should be included in the Plan of Development:

1. Pre-project habitat assessments will be completed across 100% of the project disturbance area, including areas where hydrology might be affected by project activities, within potential habitat[4] prior to any ground disturbing activities to determine if suitable Ute ladies'-tresses habitat is present.

2. Within suitable habitat[5], site inventories will be conducted to determine occupancy. Inventories:
   a. Must be conducted by qualified individual(s) and according to BLM and USFWS accepted survey protocols,
   b. Will be conducted in suitable and occupied[6] habitat for all areas proposed for surface disturbance or areas that could experience direct or indirect changes in hydrology from project activities,
   c. Will be conducted prior to initiation of project activities and within the same growing season, at a time when the plant can be detected, and during appropriate flowering periods (usually August 1st and August 31st in the Uintah Basin; however, surveyors should verify that the plant is flowering by contacting a BLM or USFWS botanist or demonstrating that the nearest known population is in flower),
   d. Will occur within 300' from the centerline of the proposed right-of-way for surface pipelines or roads; and within 300' from the perimeter of disturbance for the proposed well pad including the well pad,
   e. Will include, but not be limited to, plant species lists, habitat characteristics, source of hydrology, and estimated hyroperiod, and
   f. Will be valid until August 1st the following year.

3. Design project infrastructure to minimize direct or indirect impacts to suitable habitat[2] both within and downstream of the project area:
   a. Alteration and disturbance of hydrology will not be permitted,
   b. Reduce well pad size to the minimum needed, without compromising safety,
   c. Limit new access routes created by the project,
   d. Roads and utilities should share common right-of-ways where possible,
   e. Reduce width of right-of-ways and minimize the depth of excavation needed for the road bed,
   f. Construction and right-of-way management measures should avoid soil compaction that would impact Ute ladies' tresses habitat,
   g. Off-site impacts or indirect impacts should be avoided or minimized (i.e. install berms or catchment ditches to prevent spilled materials from reaching occupied or suitable habitat through either surface or groundwater),
   h. Place signing to limit off-road travel in sensitive areas,

[4] *Potential habitat* is defined as areas which satisfy the broad criteria of the species habitat description; usually determined by preliminary, in-house assessment.

[5] *Suitable habitat* is defined as areas which contain or exhibit the specific components or constituents necessary for plant persistence; determined by field inspection and/or surveys; may or may not contain Ute ladies'-tresses. Habitat descriptions can be found in Recovery Plans and Federal Register Notices for the species at <http://www.fws.gov/endangered/wildlife.html>.

[6] *Occupied habitat* is defined as areas currently or historically known to support Ute ladies'-tresses; synonymous with "known habitat."

i. Stay on designated routes and other cleared/approved areas, and
j. All disturbed areas will be re-vegetated with species approved by USFWS and BLM botanists.

4. Within occupied habitat[3], project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants:
   a. Follow the above (#3) recommendations for project design within suitable habitats,
   b. Buffers of 300 feet minimum between right of way (roads and surface pipelines) or surface disturbance (well pads) and plants and populations will be incorporated,
   c. Surface pipelines will be laid such that a 300-foot buffer exists between the edge of the right of way and the plants, using stabilizing and anchoring techniques when the pipeline crosses habitat to ensure the pipelines don't move towards the population,
   d. Before and during construction, areas for avoidance should be visually identifiable in the field (e.g., flagging, temporary fencing, rebar, etc.),
   e. Where technically and economically feasible, use directional drilling or multiple wells from the same pad,
   f. Designs will avoid altering site hydrology and concentrating water flows or sediments into occupied habitat,
   g. Place produced oil, water, or condensate tanks in centralized locations, away from occupied habitat, with berms and catchment ditches to avoid or minimize the potential for materials to reach occupied or suitable habitat, and
   h. Minimize the disturbed area of producing well locations through interim and final reclamation. Reclaim well pads following drilling to the smallest area possible.

5. Occupied Ute ladies'-tresses habitats within 300' of the edge of the surface pipelines' right-of-ways, 300' of the edge of the roads' right-of-ways, and 300' from the edge of the well pad shall be monitored for a period of three years after ground disturbing activities. Monitoring will include annual plant surveys to determine plant and habitat impacts relative to project facilities. Habitat impacts include monitoring any changes in hydrology due to project related activities. Annual reports shall be provided to the BLM and the USFWS. To ensure desired results are being achieved, minimization measures will be evaluated and may be changed after a thorough review of the monitoring results and annual reports during annual meetings between the BLM and the Service.

6. Reinitiation of section 7 consultation with the USFWS will be sought immediately if any loss of plants or occupied habitat for the Ute ladies'-tresses is anticipated as a result of project activities.

Additional site-specific measures may also be employed to avoid or minimize effects to the species. These additional measures will be developed and implemented in consultation with the USFWS to ensure continued compliance with the ESA.

## *L.1.8 LEASE NOTICE: CLAY REED-MUSTARD (SCHOENOCRAMBE ARGILLACEA)*

The Lessee/Operator is given notice that the lands in this parcel contain suitable habitat for clay reed-mustard under the Endangered Species Act (ESA). The following avoidance and minimization measures have been developed to facilitate review and analysis of any submitted permits under the authority of this lease:

In order to minimize effects to the federally threatened clay reed-mustard, the BLM in coordination with the USFWS developed the following avoidance and minimization measures. Integration of and adherence to these measures will help ensure the activities carried out during oil and gas development (including but not limited to drilling, production, and maintenance) are in compliance with the ESA. The following avoidance and minimization measures should be included in the Plan of Development:

1. Pre-project habitat assessments will be completed across 100% of the project disturbance area within potential habitat[7] prior to any ground disturbing activities to determine if suitable clay reed-mustard habitat is present.

2. Site inventories will be conducted within suitable habitat[8] to determine occupancy. Where standard surveys are technically infeasible and otherwise hazardous due to topography, slope, etc., suitable habitat will be assessed and mapped for avoidance (hereafter, "avoidance areas"); in such cases, in general, 300' buffers will be maintained between surface disturbance and avoidance areas. However, site specific distances will need to be approved by USFWS and BLM when disturbance will occur upslope of habitat. Where conditions allow, inventories:
   a. Must be conducted by qualified individual(s) and according to BLM and Service accepted survey protocols,
   b. Will be conducted in suitable and occupied[9] habitat for all areas proposed for surface disturbance prior to initiation of project activities and within the same growing season, at a time when the plant can be detected (usually May 1st to June 5th, in the Uintah Basin; however, surveyors should verify that the plant is flowering by contacting a BLM or FWS botanist or demonstrating that the nearest known population is in flower ),
   c. Will occur within 300' from the centerline of the proposed right-of-way for surface pipelines or roads; and within 300' from the perimeter of disturbance for the proposed well pad including the well pad,
   d. Will include, but not be limited to, plant species lists and habitat characteristics, and

[7] *Potential habitat* is defined as areas which satisfy the broad criteria of the species habitat description; usually determined by preliminary, in-house assessment.

[8] *Suitable habitat* is defined as areas which contain or exhibit the specific components or constituents necessary for plant persistence; determined by field inspection and/or surveys; may or may not contain clay reed-mustard; habitat descriptions can be found in Federal Register Notice and species recovery plan links at <http://www.fws.gov/endangered/wildlife.html>.

[9] *Occupied habitat* is defined as areas currently or historically known to support clay reed-mustard; synonymous with "known habitat."

e. Will be valid until May 1st the following year.

3. Design project infrastructure to minimize impacts within suitable habitat[2]:
   a. Where standard surveys are technically infeasible, infrastructure and activities will avoid all suitable habitat (avoidance areas) and incorporate 300' buffers, in general; however, site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat,
   b. Reduce well pad size to the minimum needed, without compromising safety,
   c. Limit new access routes created by the project,
   d. Roads and utilities should share common right-of-ways where possible,
   e. Reduce the width of right-of-ways and minimize the depth of excavation needed for the road bed; where feasible, use the natural ground surface for the road within habitat,
   f. Place signing to limit off-road travel in sensitive areas, and
   g. Stay on designated routes and other cleared/approved areas.

4. Within occupied habitat[3], project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants:
   a. Where standard surveys are technically infeasible, infrastructure and activities will avoid all suitable habitat (avoidance areas) and incorporate 300' buffers, in general; however, site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat,
   b. Follow the above recommendations (#3) for project design within suitable habitats,
   c. To avoid water flow and/or sedimentation into occupied habitat and avoidance areas, silt fences, hay bales, and similar structures or practices will be incorporated into the project design; appropriate placement of fill is encouraged,
   d. Construction of roads will occur such that the edge of the right of way is at least 300' from any plant and 300' from avoidance areas,
   e. Roads will be graveled within occupied habitat; the operator is encouraged to apply water for dust abatement to such areas from May 1st to June 5th (flowering period); dust abatement applications will be comprised of water only,
   f. The edge of the well pad should be located at least 300' away from plants and avoidance areas, in general; however, site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat,
   g. Surface pipelines will be laid such that a 300' buffer exists between the edge of the right of way and plants and 300' between the edge of right of way and avoidance areas; use stabilizing and anchoring techniques when the pipeline crosses suitable habitat to ensure pipelines don't move towards the population ; site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat,
   h. Construction activities will not occur from May 1st through June 5th within occupied habitat,

i. Before and during construction, areas for avoidance should be visually identifiable in the field (e.g., flagging, temporary fencing, rebar, etc.),
j. Where technically and economically feasible, use directional drilling or multiple wells from the same pad,
k. Place produced oil, water, or condensate tanks in centralized locations, away from occupied habitat, and
l. Minimize the disturbed area of producing well locations through interim and final reclamation. Reclaim well pads following drilling to the smallest area possible.

5. Occupied clay reed-mustard habitats within 300' of the edge of the surface pipelines' right of ways, 300' of the edge of the roads' right of ways, and 300' from the edge of the well pad shall be monitored for a period of three years after ground disturbing activities. Monitoring will include annual plant surveys to determine plant and habitat impacts relative to project facilities. Annual reports shall be provided to the BLM and the USFWS. To ensure desired results are being achieved, minimization measures will be evaluated and may be changed after a thorough review of the monitoring results and annual reports during annual meetings between the BLM and the Service.

6. Reinitiation of section 7 consultation with the USFWS will be sought immediately if any loss of plants or occupied habitat for the shrubby reed-mustard is anticipated as a result of project activities.

Additional site-specific measures may also be employed to avoid or minimize effects to the species. These additional measures will be developed and implemented in consultation with the USFWS to ensure continued compliance with the ESA.

### *L.1.9 LEASE NOTICE: SHRUBBY REED-MUSTARD (SCHOENOCRAMBE (=GLAUCOCARPUM) SUFFRUTESCENS)*

The Lessee/Operator is given notice that the lands in this parcel contain suitable habitat for shrubby reed-mustard under the Endangered Species Act (ESA). The following avoidance and minimization measures have been developed to facilitate review and analysis of any submitted permits under the authority of this lease:

In order to minimize effects to the federally endangered shrubby reed-mustard, the BLM in coordination with the USFWS developed the following avoidance and minimization measures. Integration of and adherence to these measures will help ensure the activities carried out during oil and gas development (including but not limited to drilling, production, and maintenance) are in compliance with the ESA. The following avoidance and minimization measures should be included in the Plan of Development:

1. Pre-project habitat assessments will be completed across 100% of the project disturbance area within potential habitat[10] prior to any ground disturbing activities to determine if suitable shrubby reed-mustard habitat is present.

[10] *Potential habitat* is defined as areas which satisfy the broad criteria of the species habitat description; usually determined by preliminary, in-house assessment.

2. Within suitable habitat[11], site inventories will be conducted to determine occupancy. Inventories:
   a. Must be conducted by qualified individual(s) and according to BLM and Service accepted survey protocols,
   b. Will be conducted in suitable and occupied[12] habitat for all areas proposed for surface disturbance prior to initiation of project activities and within the same growing season, at a time when the plant can be detected (April 15th to August 1st, unless extended by the BLM),
   c. Will occur within 300' from the centerline of the proposed right-of-way for surface pipelines or roads; and within 300' from the perimeter of disturbance for the proposed well pad including the well pad,
   d. Will include, but not be limited to, plant species lists and habitat characteristics, and
   e. Will be valid until April 15th the following year.

3. Design project infrastructure to minimize impacts within suitable habitat[2]:
   a. Reduce well pad size to the minimum needed, without compromising safety,
   b. Limit new access routes created by the project,
   c. Roads and utilities should share common right-of-ways where possible,
   d. Reduce the width of right-of-ways and minimize the depth of excavation needed for the road bed; where feasible, use the natural ground surface for the road within habitat,
   e. Place signing to limit off-road travel in sensitive areas, and
   f. Stay on designated routes and other cleared/approved areas.

4. Within occupied habitat[3], project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants:
   a. Follow the above (#3) recommendations for project design within suitable habitats,
   b. Construction of roads will occur such that the edge of the right of way is at least 300' from any plant,
   c. Roads will be graveled within occupied habitat; the operator is encouraged to apply water for dust abatement to such areas from April 15th to May 30th (flowering period); dust abatement applications will be comprised of water only,
   d. The edge of the well pad should be located at least 300' away from plants,
   e. Surface pipelines will be laid such that a 300 foot buffer exists between the edge of the right of way and the plants, use stabilizing and anchoring

[11] *Suitable habitat* is defined as areas which contain or exhibit the specific components or constituents necessary for plant persistence; determined by field inspection and/or surveys; may or may not contain shrubby reed-mustard; habitat descriptions can be found in the Federal Register 52(193):37416-37420 and in the U.S. Fish and Wildlife Service's 1994 Utah Reed-Mustards Recovery Plan (http://www.fws.gov/endangered/wildlife.html).

[12] *Occupied habitat* is defined as areas currently or historically known to support shrubby reed-mustard; synonymous with "known habitat."

techniques when the pipeline crosses the white shale strata to ensure the pipelines don't move towards the population,

f. Construction activities will not occur from April 15th through May 30th within occupied habitat,
g. Before and during construction, areas for avoidance should be visually identifiable in the field (e.g., flagging, temporary fencing, rebar, etc.),
h. Where technically and economically feasible, use directional drilling or multiple wells from the same pad,
i. Designs will avoid concentrating water flows or sediments into occupied habitat,
j. Place produced oil, water, or condensate tanks in centralized locations, away from occupied habitat, and
k. Minimize the disturbed area of producing well locations through interim and final reclamation. Reclaim well pads following drilling to the smallest area possible.

5. Occupied shrubby reed-mustard habitats within 300' of the edge of the surface pipeline right of ways, 300' of the edge of the road right of ways, and 300' from the edge of well pads shall be monitored for a period of three years after ground disturbing activities. Monitoring will include annual plant surveys to determine plant and habitat impacts relative to project facilities. Annual reports shall be provided to the BLM and the USFWS. To ensure desired results are being achieved, minimization measures will be evaluated and may be changed after a thorough review of the monitoring results and annual reports during annual meetings between the BLM and the Service.

6. Reinitiation of section 7 consultation with the USFWS will be sought immediately if any loss of plants or occupied habitat for the shrubby reed-mustard is anticipated as a result of project activities.

Additional site-specific measures may also be employed to avoid or minimize effects to the species. These additional measures will be developed and implemented in consultation with the USFWS to ensure continued compliance with the ESA.

## L.2 BLM-COMMITTED CONSERVATION MEASURES

BLM-committed conservation measures, which would be incorporated into the RMP, are binding species-specific measures intended to protect species, and minimize the potential for adverse impacts that may result from the implementation of BLM authorized activities on special status species. This is not a comprehensive list, in that other modified versions of these measures may be imposed for any BLM authorized activity following further analyses or reviews, and/or consultation and coordination with USFWS on specific actions.

### *L.2.1 COMMITTED MITIGATION IDENTIFIED IN CHAPTER 2 OF THE APPROVED RMP AND THOSE RESULTING FROM CONSULTATION ON EXISTING LAND USE PLANS*

1. In consultation with USFWS and Utah Division of Wildlife Resources (UDWR), apply species-specific protective stipulations on federal actions to avoid or minimize adverse effects on federally listed, proposed, or candidate species or suitable habitat for the same species.

2. Maintain adequate baseline information regarding the extent of special status species to make informed decisions, evaluate the effectiveness of management actions, and assess progress toward recovery. Implement species-specific conservation measures to avoid or mitigate adverse impacts on known populations and their habitats of BLM special status plant and animal species on BLM administered lands.

3. In areas where multiple resources are potentially affected by surface disturbance (e.g., crucial-value wildlife habitat, livestock pastures, threatened and endangered and special status species habitat, and occupied wild horse and burro range), coordinate implementation of any offsite mitigation with other affected agencies and the overlapping resource values.

4. Cooperate with the USFWS, other agencies, and universities to develop plans for federally listed plant and animal species.

5. Work with the UDWR to identify and improve special status fish passage and habitat connectivity. Maintain or improve habitat for reintroduction of special status fish species to streams. Maintain special status plant species communities in natural patterns on a landscape scale.

6. Follow guidelines and implement management recommendations presented in species recovery or conservation plans or alternative management strategies developed in consultation with USFWS.

7. Use emergency actions where use threatens known communities of Special Status plant or animal species.

8. Prohibit surface disturbances that may affect listed species or critical habitat of plants or animals (T&E or Candidate) without consultation or conference (ESA Section 7) between the BLM and USFWS.

9. Continue to work with USFWS and others to ensure that plans and agreements are updated to reflect the latest scientific data.

### *L.2.2 SPECIES SPECIFIC BLM-COMMITTED CONSERVATION MEASURES*

As part of the approved RMP, the BLM has included conservation measures to minimize or eliminate adverse impacts to federally listed species. These measures are listed by species and are extrapolated from the *Biological Opinion for the Existing Utah BLM RMP*, the *Amendment of Informal Oil & Gas Lease Sales Consultation (05-0215) and the Utah BLM RMP Biological Opinion (6-UT-07-F-0018) Conservation Measures.*

### L.2.3 UTE LADIES'-TRESSES

In order to minimize effects to the federally threatened Ute ladies'-tresses, the BLM in coordination with the USFWS, developed the following avoidance and minimization measures. Integration of and adherence to these measures will help ensure the activities carried out during oil and gas development (including but not limited to drilling, production, and maintenance) are in compliance with the ESA. Ute ladies'- tresses habitat is provided some protection under Executive Orders 11990 (wetland protection) and 11988 (floodplain management), as well as section 404 of the Clean Water Act. Although plants, habitat, or populations may be afforded some protection under these regulatory mechanisms, the following conservation measures should be included in the Plan of Development:

1. Pre-project habitat assessments will be completed across 100% of the project disturbance area, including areas where hydrology might be affected by project activities, within potential habitat[13] prior to any ground disturbing activities to determine if suitable habitat is present.

2. Within suitable habitat[14], site inventories will be conducted to determine occupancy. Inventories:

    a. Must be conducted by qualified individual(s) and according to BLM and USFWS accepted survey protocols;
    b. Will be conducted in suitable and occupied habitat for all areas proposed for surface disturbance or areas that could experience direct or indirect changes in hydrology from project activities;
    c. Will be conducted prior to initiation of project activities and within the same growing season, at a time when the plant can be detected, and during appropriate flowering periods (usually August 1st and August 31st in the Uinta Basin; however, surveyors should verify that the plant is flowering by contacting a BLM or USFWS botanist or demonstrating that the nearest known population is in flower);
    d. Will occur within 300 feet from the centerline of the proposed right-of-way for surface pipelines or roads; and within 300 feet from the perimeter of disturbance for the proposed well pad including the well pad;
    e. Will include, but not be limited to, plant species lists, habitat characteristics, source of hydrology, and estimated hydroperiod; and
    f. Will be valid until August 1st the following year.

[13] *Potential habitat* is defined as areas which satisfy the broad criteria of the species habitat description; usually determined by preliminary, in-house assessment.

[14] *Suitable habitat* is defined as areas which contain or exhibit the specific components or constituents necessary for plant persistence; determined by field inspection and/or surveys; may or may not contain . Habitat descriptions can be found in Recovery Plans and Federal Register Notices for the species at (http://www.fws.gov/endangered/wildlife.html).

3. Design project infrastructure to minimize direct or indirect impacts to suitable habitat both within and downstream of the project area:

    a. Alteration and disturbance of hydrology will not be permitted;
    b. Reduce well pad size to the minimum needed, without compromising safety;
    c. Limit new access routes created by the project;
    d. Roads and utilities should share common right-of-ways where possible;
    e. Reduce width of right-of-ways and minimize the depth of excavation needed for the road bed;
    f. Construction and right-of-way management measures should avoid soil compaction that would impact Ute ladies' tresses habitat;
    g. Off-site impacts or indirect impacts should be avoided or minimized (i.e. install berms or catchment ditches to prevent spilled materials from reaching occupied or suitable habitat through either surface or groundwater);
    h. Place signing to limit off-road travel in sensitive areas;
    i. Stay on designated routes and other cleared/approved areas; and,
    j. All disturbed areas will be re-vegetated with species approved by USFWS and BLM botanists.

4. Within occupied habitat[15], project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants:

    a. Follow the above (#3) recommendations for project design within suitable habitats;
    b. Buffers of 300 feet minimum between right of way (roads and surface pipelines) or surface disturbance (well pads) and plants and populations will be incorporated;
    c. Surface pipelines will be laid such that a 300-foot buffer exists between the edge of the right-of-way and the plants, using stabilizing and anchoring techniques when the pipeline crosses habitat to ensure the pipelines don't move towards the population;
    d. Before and during construction, areas for avoidance should be visually identifiable in the field (e.g., flagging, temporary fencing, rebar, etc.);
    e. Where technically and economically feasible, use directional drilling or multiple wells from the same pad;
    f. Designs will avoid altering site hydrology and concentrating water flows or sediments into occupied habitat;
    g. Place produced oil, water, or condensate tanks in centralized locations, away from occupied habitat, with berms and catchment ditches to avoid or minimize the potential for materials to reach occupied or suitable habitat; and,
    h. Minimize the disturbed area of producing well locations through interim and final reclamation. Reclaim well pads following drilling to the smallest area possible.

[15] *Occupied habitat* is defined as areas currently or historically known to support; synonymous with "known habitat."

5. Occupied habitats within 300 feet of the edge of the surface pipelines' ROW, 300 feet of the edge of the roads' ROWs, and 300 feet from the edge of the well pad shall be monitored for a period of three years after ground disturbing activities. Monitoring will include annual plant surveys to determine plant and habitat impacts relative to project facilities. Habitat impacts include monitoring any changes in hydrology due to project related activities. Annual reports shall be provided to the BLM and the USFWS. To ensure desired results are being achieved, minimization measures will be evaluated and may be changed after a thorough review of the monitoring results and annual reports during annual meetings between the BLM and the USFWS.

6. Reinitiation of Section 7 consultation with the USFWS will be sought immediately if any loss of plants or occupied habitat is anticipated as a result of project activities.

Additional site-specific measures may also be employed to avoid or minimize effects to the species. These additional measures will be developed and implemented in consultation with the USFWS to ensure continued compliance with the ESA.

### *L.2.4 Uinta Basin Hookless Cactus (Sclerocactus glaucus [=S. wetlandicus and S. brevispinus])*

The following list of measures provides species-specific guidance intended to avoid, minimize, or reduce potential adverse impacts from implementation of BLM actions under the authority of current Utah BLM LUPs on the Uinta Basin hookless cactus (*Sclerocactus glaucus*). This list is not comprehensive. Additional conservation measures, or other modified versions of these measures, may be applied for any given BLM-authorized activity upon further analysis, review, coordination efforts, and/or appropriate levels of section 7 consultation with the USFWS.

1. Prior to surface disturbing activities in habitat for the species, presence/absence surveys of potentially affected areas will be conducted in accordance with established protocols.

2. Appropriate avoidance/protection/mitigation will be used to manage potential impacts of similar subsequent projects. These measures should include, but are not be limited to:
   a. the stabilization of soils to minimize or avoid impacts related to soil erosion;
   b. marking/flagging of suitable and/or occupied habitat (including predetermined buffers) prior to development to avoid trampling by crew members or equipment during disturbance related activities; and
   c. require project proponents to conduct surveys and monitoring actions using BLM-approved specialists to document population effects and individual impacts.

3. BLM shall continue to document new populations of Uinta Basin hookless cactus as they are encountered.

4. To assist and support recovery efforts, BLM will minimize or avoid surface disturbances in habitats that support the species.

5. BLM will encourage and assist project proponents in development and design of their proposed actions in order to avoid direct disturbance to suitable habitat, populations, or individuals where feasible. Designs should consider water flow, slope, appropriate buffer distances, possible fencing needs, and pre-activity flagging of sensitive areas that are planned for avoidance.

6. BLM will consider emergency OHV closure or additional restrictions to protect, conserve, and recover the species.

7. In areas where dispersed recreational uses are identified as threats to populations of the species, BLM will consider the development of new recreational facilities/opportunities that concentrate dispersed recreational use away from habitat, especially occupied habitat.

8. Cultural and paleontological survey/recovery technicians (i.e., archeologists and/or paleontologists), conducting work in the vicinity of known populations, will be educated in the identification of listed species in order to avoid inadvertent trampling or removal during survey, mapping, or excavation of cultural or paleontological resources.

9. Areas of viable habitat, near populations considered for prescribed burning, will be surveyed according to established protocols for new or undocumented populations of the species.

10. Lands being considered for exchange or disposal that contain suitable habitat for the species will be surveyed for undocumented populations, according to established protocols, prior to approval of such disposal. Lands supporting populations shall not be disposed of unless it is determined that the action will not threaten the survival and recovery of the species in accordance with the ESA and BLM *Guidance and Policy Manual 6840 (Special Status Species Management)*.

11. The BLM will encourage the avoidance of key habitats during livestock herding and trailing activities on BLM-administered lands. (Key habitats are those that are deemed necessary for the conservation of the species including, but not necessarily limited to, designated critical habitat and other occupied or unoccupied habitats considered important for the species survival and recovery as determined in coordination with the USFWS).

### *L.2.5 CLAY REED-MUSTARD (SCHOENOCRAMBE ARGILLACEA)*

In order to minimize effects to the federally threatened clay reed-mustard, the Bureau of Land Management (BLM) in coordination with the U.S. Fish and Wildlife Service (Service) developed the following avoidance and minimization measures. Integration of

and adherence to these measures will help ensure the activities carried out during oil and gas development (including but not limited to drilling, production, and maintenance) are in compliance with the Endangered Species Act (ESA). The following avoidance and minimization measures should be included in the Plan of Development:

1. Pre-project habitat assessments will be completed across 100% of the project disturbance area within potential habitat[16] prior to any ground disturbing activities to determine if suitable clay reed-mustard habitat is present.

2. Site inventories will be conducted within suitable habitat[17] to determine occupancy. Where standard surveys are technically infeasible and otherwise hazardous due to topography, slope, etc., suitable habitat will be assessed and mapped for avoidance (hereafter, "avoidance areas"); in such cases, in general, 300' buffers will be maintained between surface disturbance and avoidance areas. However, site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat. Where conditions allow, inventories:
   a. Must be conducted by qualified individual(s) and according to BLM and Service accepted survey protocols,
   b. Will be conducted in suitable and occupied[18] habitat for all areas proposed for surface disturbance prior to initiation of project activities and within the same growing season, at a time when the plant can be detected (usually May 1st to June 5th, in the Uintah Basin; however, surveyors should verify that the plant is flowering by contacting a BLM or FWS botanist or demonstrating that the nearest known population is in flower ),
   c. Will occur within 300' from the centerline of the proposed right-of-way for surface pipelines or roads; and within 300' from the perimeter of disturbance for the proposed well pad including the well pad,
   d. Will include, but not be limited to, plant species lists and habitat characteristics, and
   e. Will be valid until May 1st the following year.

3. Design project infrastructure to minimize impacts within suitable habitat[2]:
   a. Where standard surveys are technically infeasible, infrastructure and activities will avoid all suitable habitat (avoidance areas) and incorporate 300' buffers, in general; however, site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat,
   b. Reduce well pad size to the minimum needed, without compromising safety,
   c. Limit new access routes created by the project,

[16] *Potential habitat* is defined as areas which satisfy the broad criteria of the species habitat description; usually determined by preliminary, in-house assessment.

[17] *Suitable habitat* is defined as areas which contain or exhibit the specific components or constituents necessary for plant persistence; determined by field inspection and/or surveys; may or may not contain clay reed-mustard; habitat descriptions can be found in Federal Register Notice and species recovery plan links at <http://www.fws.gov/endangered/wildlife.html>.

[18] *Occupied habitat* is defined as areas currently or historically known to support clay reed-mustard; synonymous with "known habitat."

d. Roads and utilities should share common right-of-ways where possible,
e. Reduce the width of right-of-ways and minimize the depth of excavation needed for the road bed; where feasible, use the natural ground surface for the road within habitat,
f. Place signing to limit off-road travel in sensitive areas, and
g. Stay on designated routes and other cleared/approved areas.

4. Within occupied habitat[3], project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants:
   a. Where standard surveys are technically infeasible, infrastructure and activities will avoid all suitable habitat (avoidance areas) and incorporate 300' buffers, in general; however, site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat,
   b. Follow the above recommendations (#3) for project design within suitable habitats,
   c. To avoid water flow and/or sedimentation into occupied habitat and avoidance areas, silt fences, hay bales, and similar structures or practices will be incorporated into the project design; appropriate placement of fill is encouraged,
   d. Construction of roads will occur such that the edge of the right of way is at least 300' from any plant and 300' from avoidance areas,
   e. Roads will be graveled within occupied habitat; the operator is encouraged to apply water for dust abatement to such areas from May 1st to June 5th (flowering period); dust abatement applications will be comprised of water only,
   f. The edge of the well pad should be located at least 300' away from plants and avoidance areas, in general; however, site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat,
   g. Surface pipelines will be laid such that a 300' buffer exists between the edge of the right of way and plants and 300' between the edge of right of way and avoidance areas; use stabilizing and anchoring techniques when the pipeline crosses suitable habitat to ensure pipelines don't move towards the population; site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat,
   h. Construction activities will not occur from May 1st through June 5th within occupied habitat,
   i. Before and during construction, areas for avoidance should be visually identifiable in the field (e.g., flagging, temporary fencing, rebar, etc.),
   j. Where technically and economically feasible, use directional drilling or multiple wells from the same pad,
   k. Place produced oil, water, or condensate tanks in centralized locations, away from occupied habitat, and
   l. Minimize the disturbed area of producing well locations through interim and final reclamation. Reclaim well pads following drilling to the smallest area possible.

5. Occupied clay reed-mustard habitats within 300' of the edge of the surface pipelines' right of ways, 300' of the edge of the roads' right of ways, and 300' from the edge of the well pad shall be monitored for a period of three years after ground disturbing activities. Monitoring will include annual plant surveys to determine plant and habitat impacts relative to project facilities. Annual reports shall be provided to the BLM and the Service. To ensure desired results are being achieved, minimization measures will be evaluated and may be changed after a thorough review of the monitoring results and annual reports during annual meetings between the BLM and the Service.

6. Reinitiation of section 7 consultation with the Service will be sought immediately if any loss of plants or occupied habitat for the shrubby reed-mustard is anticipated as a result of project activities.

Additional site-specific measures may also be employed to avoid or minimize effects to the species. These additional measures will be developed and implemented in consultation with the U.S. Fish and Wildlife Service to ensure continued compliance with the ESA.

### *L.2.6 SHRUBBY REED-MUSTARD (SCHOENOCRAMBE [=GLAUCOCARPUM] SUFFRUTESCENS)*

In order to minimize effects to the federally endangered shrubby reed-mustard, the Bureau of Land Management (BLM) in coordination with the U.S. Fish and Wildlife Service (Service) developed the following avoidance and minimization measures. Integration of and adherence to these measures will help ensure the activities carried out during oil and gas development (including but not limited to drilling, production, and maintenance) are in compliance with the Endangered Species Act (ESA). The following avoidance and minimization measures should be included in the Plan of Development:

1. Pre-project habitat assessments will be completed across 100% of the project disturbance area within potential habitat[19] prior to any ground disturbing activities to determine if suitable shrubby reed-mustard habitat is present.

2. Within suitable habitat[20], site inventories will be conducted to determine occupancy. Inventories:
   a. Must be conducted by qualified individual(s) and according to BLM and Service accepted survey protocols,
   b. Will be conducted in suitable and occupied[21] habitat for all areas proposed for surface disturbance prior to initiation of project activities and within the same

[19] *Potential habitat* is defined as areas which satisfy the broad criteria of the species habitat description; usually determined by preliminary, in-house assessment.

[20] *Suitable habitat* is defined as areas which contain or exhibit the specific components or constituents necessary for plant persistence; determined by field inspection and/or surveys; may or may not contain shrubby reed-mustard; habitat descriptions can be found in the Federal Register 52(193):37416-37420 and in the U.S. Fish and Wildlife Service's 1994 Utah Reed-Mustards Recovery Plan (http://www.fws.gov/endangered/wildlife.html).

growing season, at a time when the plant can be detected (April 15th to August 1st, unless extended by the BLM),
   c. Will occur within 300' from the centerline of the proposed right-of-way for surface pipelines or roads; and within 300' from the perimeter of disturbance for the proposed well pad including the well pad,
   d. Will include, but not be limited to, plant species lists and habitat characteristics, and
   e. Will be valid until April 15th the following year.

3. Design project infrastructure to minimize impacts within suitable habitat[2]:
   a. Reduce well pad size to the minimum needed, without compromising safety,
   b. Limit new access routes created by the project,
   c. Roads and utilities should share common right-of-ways where possible,
   d. Reduce the width of right-of-ways and minimize the depth of excavation needed for the road bed; where feasible, use the natural ground surface for the road within habitat,
   e. Place signing to limit off-road travel in sensitive areas, and
   f. Stay on designated routes and other cleared/approved areas.

4. Within occupied habitat[3], project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants:
   a. Follow the above (#3) recommendations for project design within suitable habitats,
   b. Construction of roads will occur such that the edge of the right of way is at least 300' from any plant,
   c. Roads will be graveled within occupied habitat; the operator is encouraged to apply water for dust abatement to such areas from April 15th to May 30th (flowering period); dust abatement applications will be comprised of water only,
   d. The edge of the well pad should be located at least 300' away from plants,
   e. Surface pipelines will be laid such that a 300 foot buffer exists between the edge of the right of way and the plants, use stabilizing and anchoring techniques when the pipeline crosses the white shale strata to ensure the pipelines don't move towards the population,
   f. Construction activities will not occur from April 15th through May 30th within occupied habitat,
   g. Before and during construction, areas for avoidance should be visually identifiable in the field (e.g., flagging, temporary fencing, rebar, etc.),
   h. Where technically and economically feasible, use directional drilling or multiple wells from the same pad,
   i. Designs will avoid concentrating water flows or sediments into occupied habitat,
   j. Place produced oil, water, or condensate tanks in centralized locations, away from occupied habitat, and

[21] *Occupied habitat* is defined as areas currently or historically known to support shrubby reed-mustard; synonymous with "known habitat."

k. Minimize the disturbed area of producing well locations through interim and final reclamation. Reclaim well pads following drilling to the smallest area possible.

5. Occupied shrubby reed-mustard habitats within 300' of the edge of the surface pipeline right of ways, 300' of the edge of the road right of ways, and 300' from the edge of well pads shall be monitored for a period of three years after ground disturbing activities. Monitoring will include annual plant surveys to determine plant and habitat impacts relative to project facilities. Annual reports shall be provided to the BLM and the Service. To ensure desired results are being achieved, minimization measures will be evaluated and may be changed after a thorough review of the monitoring results and annual reports during annual meetings between the BLM and the Service.

6. Reinitiation of section 7 consultation with the Service will be sought immediately if any loss of plants or occupied habitat for the shrubby reed-mustard is anticipated as a result of project activities.

Additional site-specific measures may also be employed to avoid or minimize effects to the species. These additional measures will be developed and implemented in consultation with the U.S. Fish and Wildlife Service to ensure continued compliance with the ESA.

### *L.2.7 MEXICAN SPOTTED OWL (STRIX OCCIDENTALIS LUCIDA)*

The following list of measures provides species-specific guidance, intended to avoid, minimize, or reduce potential adverse impacts from implementation of BLM actions under the authority of current Utah BLM LUPs on the Mexican spotted owl (*Strix occidentalis lucida*). This list is not comprehensive. Additional conservation measures, or other modified versions of these measures, may be applied for any given BLM-authorized activity upon further analysis, review, coordination efforts, and/or appropriate levels of section 7 consultation with the Service.

1. BLM will place restrictions on all authorized (permitted) activities that may adversely affect the Mexican spotted owl in identified PACs, breeding habitat, or designated critical habitat, to reduce the potential for adverse impacts to the species. Restrictions and procedures have been adapted from guidance published in the Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances (USFWS 2002b), as well as coordination between BLM and the Service. Measures include:

   a. Surveys, according to USFWS protocol, will be required prior to any disturbance related activities that have been identified to have the potential to impact Mexican spotted owl, unless current species occupancy and distribution information is complete and available. All surveys must be conducted by USFWS certified individuals, and approved by the BLM authorized officer.

b. Assess habitat suitability for both nesting and foraging using accepted habitat models in conjunction with field reviews. Apply the appropriate conservation measures below if project activities occur within 0.5 mile of suitable owl habitat, dependent in part on if the action is temporary[22] or permanent[23]:

   For all temporary actions that may impact owls or suitable habitat:

   i. If action occurs entirely outside of the owl breeding season, and leaves no permanent structure or permanent habitat disturbance, action can proceed without an occupancy survey.
   ii. If action will occur during a breeding season, survey for owls prior to commencing activity. If owls are found, activity should be delayed until outside of the breeding season.
   iii. Eliminate access routes created by a project through such means as raking out scars, revegetation, gating access points, etc.

   For all permanent actions that may impact owls or suitable habitat:

   i. Survey two consecutive years for owls according to established protocol prior to commencing of activity.
   ii. If owls are found, no actions will occur within 0.5 mile of identified nest site.
   iii. If nest site is unknown, no activity will occur within the designated Protected Activity Center (PAC).
   iv. Avoid placing permanent structures within 0.5 mile of suitable habitat unless surveyed and not occupied.
   v. Reduce noise emissions (e.g., use hospital-grade mufflers) to 45 dBA at 0.5 mile from suitable habitat, including canyon rims (Delaney et al. 1997). Placement of permanent noise-generating facilities should be determined by a noise analysis to ensure noise does not encroach upon a 0.5 mile buffer for suitable habitat, including canyon rims.
   vi. Limit disturbances to and within suitable owl habitat by staying on designated routes.
   vii. Limit new access routes created by the project.

2. The BLM will, as a condition of approval (COA) on any project proposed within identified PACs, designated critical habitat, or within spatial buffers for Mexican spotted owl nests (0.5 mile), ensure that project proponents are notified as to their responsibilities for rehabilitation of temporary access routes and other temporary

[22] Temporary activities are defined as those that are completed prior to the start of the following raptor breeding season, leaving no permanent structures and resulting in no permanent habitat loss.

[23] Permanent activities continue for more than one breeding season and/or cause a loss of owl habitat or displaces owls through disturbances (e.g., creation of a permanent structure including but not limited to well pads, roads, pipelines, and electrical power lines).

surface disturbances, created by their project, according to individual BLM Field Office standards and procedures, or those determined in the project-specific Section 7 Consultation.

3. The BLM will require monitoring of activities in designated critical habitat, identified PACs, or breeding habitats, wherein it has been determined that there is a potential for take. If any adverse impacts are observed to occur in a manner, or to an extent that was not considered in the project-specific Section 7 Consultation, then consultation must be reinitiated.

    a. Monitoring results should document what, if any, impacts to individuals or habitat occur during project construction/implementation. In addition, monitoring should document successes or failures of any impact minimization, or mitigation measures. Monitoring results would be considered an opportunity for adaptive management, and as such, would be carried forward in the design and implementation of future projects.

4. For all survey and monitoring actions:

    a. Reports must be provided to affected field offices within 15 days of completion of survey or monitoring efforts.
    b. Report any detection of Mexican spotted owls during survey or monitoring to the authorized officer within 48 hours.

5. The BLM will, in areas of designated critical habitat, ensure that any physical or biological factors (i.e., the primary constituent elements), as identified in determining and designating such habitat, remains intact during implementation of any BLM-authorized activity.

6. For all BLM actions that *"may adversely affect*" the primary constituent elements in any suitable Mexican spotted owl habitat, BLM will implement measures as appropriate to minimize habitat loss or fragmentation, including rehabilitation of access routes created by the project through such means as raking out scars, revegetation, gating access points, etc.

7. Where technically and economically feasible, use directional drilling from single drilling pads to reduce surface disturbance, and minimize or eliminate needing to drilling in canyon habitats suitable for Mexican spotted owl nesting.

8. Prior to surface disturbing activities in Mexican spotted owl PACs, breeding habitats, or designated critical habitat, specific principles should be considered to control erosion. These principles include:

    a. Conduct long-range transportation planning for large areas to ensure that roads will serve future needs. This will result in less total surface disturbance.

b. Avoid surface disturbance in areas with high erosion hazards to the greatest extent possible. Avoid mid-slope locations, headwalls at the source of tributary drainages, inner valley gorges, and excessively wet slopes such as those near springs. In addition, avoid areas where large cuts and fills would be required.
c. Locate roads to minimize roadway drainage areas and to avoid modifying the natural drainage areas of small streams.

9. Project developments should be designed, and located to avoid direct or indirect loss or modification of Mexican spotted owl nesting and/or identified roosting habitats.

10. Water production associated with BLM authorized actions should be managed to ensure maintenance or enhancement of riparian habitats.

### *L.2.8 Bonytail (Gila elegans), Colorado Pikeminnow (Ptychocheilus lucius), Humpback Chub (Gila cypha), and Razorback Sucker (Xyrauchen texanus)*

The following list of measures provides species-specific guidance intended to avoid, minimize, or reduce potential adverse impacts from implementation of BLM actions under the authority of current Utah BLM LUPs on the Colorado pikeminnow, humpback chub, bonytail, and razorback sucker, herein referred to as the Colorado River fishes. This list is not comprehensive. Additional conservation measures, or other modified versions of these measures, may be applied for any given BLM-authorized activity upon further analysis, review, coordination efforts, and/or appropriate levels of Section 7 consultation with the USFWS.

1. Monitoring of impacts of site-specific projects authorized by the BLM will result in the preparation of a report describing the progress of each site-specific project, including implementation of any associated reasonable and prudent measures or reasonable and prudent alternatives. This will be a requirement of project proponents and will be included as a condition of approval (COA) on future proposed actions that have been determined to have the potential for take. Reports will be submitted annually to the USFWS–Utah Field Office, beginning after the first full year of implementation of the project, and shall list and describe:

    a. Any unforeseen direct or indirect adverse impacts that result from activities of each site-specific project;
    b. Estimated levels of impact or water depletion, in relation to those described in the original project-level Consultation effort, in order to inform the USFWS of any intentions to reinitiate Section 7 consultation; and,
    c. Results of annual, periodic monitoring which evaluates the effectiveness of any site-specific terms and conditions that are part of the formal Consultation process. This will include items such as an assessment of whether

implementation of each site-specific project is consistent with that described in the BA, and whether the project has complied with terms and conditions.

2. The BLM shall notify the USFWS immediately of any unforeseen impacts detected during project implementation. Any implementation action that may be contributing to the introduction of toxic materials or other causes of fish mortality must be immediately stopped until the situation is remedied. If investigative monitoring efforts demonstrate that the source of fish mortality is not related to the authorized activity, the action may proceed only after notification of USFWS authorities.

3. Unoccupied, suitable habitat areas should be protected in order to preserve them for future management actions associated with the recovery of the Endangered Colorado River Fish, as well as approved reintroduction, or relocation efforts.

    a. BLM will avoid impacts where feasible, to habitats considered most representative of prime suitable habitat for these species.
    b. Surface-disturbing activities will be restricted within 1/4 mile of the channel centerline of the Colorado, Green, Duchesne, Price, White, and San Rafael Rivers.
    c. Surface-disturbing activities proposed to occur within floodplains or riparian areas will be avoided unless there is no practical alternative or the development would enhance riparian/aquatic values. If activities must occur in these areas, construction will be designed to include mitigation efforts to maintain, restore, and/or improve riparian and aquatic conditions. If conditions could not be maintained, offsite mitigation strategies should be considered.

4. BLM will ensure project proponents are aware that designs must avoid as much direct disturbance to current populations and known habitats as is feasible. Designs should include:

    a. protections against toxic spills into rivers and floodplains;
    b. plans for sedimentation reduction;
    c. minimization of riparian vegetation loss or degradation;
    d. pre-activity flagging of critical areas for avoidance;
    e. design of stream-crossings for adequate passage of fish; and,
    f. measures to avoid or minimize impacts on water quality at the 25-year frequency runoff

5. Prior to surface-disturbing activities, specific principles will be considered to control erosion. These principles include:

    a. Conduct long-range transportation planning for large areas to ensure that roads will serve future needs. This will result in less total surface disturbance.
    b. Avoid, where possible, surface disturbance in areas with high erosion hazards.

c. Avoid mid-slope location of drill pads, headwalls at the source of tributary drainages, inner valley gorges, excessively wet slopes such as those near springs and avoid areas where large cuts and fills would be required.
d. Design and locate roads to minimize roadway drainage areas and to avoid modifying the natural drainage areas of small streams.

6. Where technically and economically feasible, project proponents will use directional drilling or multiple wells from a single pad to reduce surface disturbance and eliminate drilling in suitable riparian habitat. Ensure that such drilling does not intercept or degrade alluvial aquifers. Drilling will not occur within 100 year floodplains that contain listed fish species or their designated critical habitats.

7. The Utah Oil and Gas Pipeline Crossing Guidance (BLM National Science and Technology Center), or other applicable guidance, will be implemented for oil and gas pipeline river/stream crossings.

8. In areas adjacent to 100-year floodplains, particularly in systems prone to flash floods, BLM will analyze the risk for flash floods to impact facilities. Potential techniques may include the use of closed loop drilling and pipeline burial or suspension as necessary to minimize the potential for equipment damage and resultant leaks or spills.

9. Water depletions from any portion of the Upper Colorado River drainage basin above Lake Powell are considered to adversely affect the critical habitat of these endangered fish species. Section 7 consultation will be completed with the USFWS prior to any such water depletions.

10. Design stream-crossings for adequate passage of fish (if present), minimum impact on water quality, and at a minimum, a 25-year frequency run-off.

## L.3 CONSERVATION MEASURES FROM THE BIOLOGICAL OPINION FOR THE UTAH BLM LAND USE PLANS AMENDMENTS BA AND FIRE MANAGEMENT PLANS BAS

Firefighter and public safety is the first priority in every fire management activity. Setting priorities among protecting human communities, community infrastructure, other property and improvements, and natural and cultural resources must be based on the values to be protected, human health and safety, and costs of protection. The Applicant Committed Resource Protection Measures will apply to the species covered in this consultation, unless a threat to human life or property exists.

During the wildfire suppression activities, the Incident Commander has the final decision-making authority for suppression operations and tactics, including implementation of resource protection operations, thereby minimizing or avoiding many effects to federally protected species. However, in the event that measures cannot be implemented during fire suppression operations due to safety concerns, some effects may

occur to federally protected species. In these cases, BLM would initiate emergency consultation with the USFWS for these fire suppression efforts.

## L.3.1 LAND USE PLAN AMENDMENT

The project proponent commits to the following resource protection measures as identified in the March 4, 2005 Biological Assessment. These measures have been developed as part of the proposed action to provide statewide consistency in reducing the effects of fire management activities on listed, proposed, and candidate species and their habitats. Resource protection measures for fire management practices use the following codes to represent which actions fir within each of the measures:

SUP: wildland fire suppression,

WFU: wildland fire use for resource benefit,

RX: prescribed fire,

NF: non-fire fuel treatments,

ESR: Emergency Stabilization and Rehabilitation

### L.3.1.1 MEASURES DESIGNED TO PROTECT AIR QUALITY INCLUDE:

**A-1:** Evaluate weather conditions, including wind speed and atmospheric stability, to predict impacts from smoke from prescribed fires and wildland fire uses. Coordinate with Utah Department of Environmental Quality for prescribed fires and wildland fire use (RX, WFU).

**A-2:** When using chemical fuels reduction methods, follow all label requirements for herbicide application (NF).

### L.3.1.2 MEASURES DESIGNED TO PROTECT SOIL AND WATER QUALITY INCLUDE:

**SW-1:** Avoid heavy equipment use on highly erosive soils (soils with low soil loss tolerance), wet or boggy soils and slopes greater than 30%, unless otherwise analyzed and allowed under appropriate NEPA evaluation with implementation of additional erosion control and other soil protection mitigation measures. (SUP, WFU, RX, NF, ESR)

**SW-2:** There may be situations where high intensity fire will occur on sensitive and erosive soil types during wildland fire, wildland fire use or prescribed fire. If significant areas show evidence of high severity fire, then evaluate area for soil erosion potential and downstream values at risk and implement appropriate or necessary soil stabilization actions such as mulching or seeding to avoid excessive wind and water erosion. (SUP, WFU, RX)

**SW-3:** Complete necessary rehabilitation on fire lines or other areas of direct soil disturbance, including but not limited to water barring fire lines, covering and mulching fire lines with slash, tilling and/or sub soiling compacted areas, scarification of vehicle tracks, OHV closures, seeding and/or mulching for erosion protection. (SUP, WFU, RX)

**SW-4:** When using mechanical fuels reduction treatments, limit tractor and heavy equipment use to periods of low soil moisture to reduce the risk of soil compaction. If this is not practical, evaluate sites, post treatment and if necessary, implement appropriate remediation, such as sub soiling, as part of the operation. (NF)

**SW-5:** Treatments such as chaining, plowing and roller chopping shall be conducted as much as practical on the contour to reduce soil erosion. (NF, ESR)

**SW-6:** When using chemical fuel reduction treatments follow all label directions, additional mitigations identified in project NEPA evaluation and the Approved Pesticide Use Permit. At a minimum, provide a 100-foot-wide riparian buffer strip for aerial application, 25 feet for vehicle application and 10 feet for hand application. Any deviations must be accordance with the label. Herbicides would be applied to individual plants within 10 feet of water where application is critical. (NF)

**SW-7:** Avoid heavy equipment in riparian or wetland areas. During fire suppression or wildland fire use, consult a Resource Advisor before using heavy equipment in riparian or wetland areas. (SUP, WFU, RX, NF, ESR)

**SW-8:** Limit ignition within native riparian or wetland areas. Allow low-intensity fire to burn into riparian areas. (RX)

**SW-9:** Suppress wildfires consistently with compliance strategies for restoring or maintaining the restoration of water quality impaired [303(d) listed] water bodies. Do not use retardant within 300 feet of water bodies. (SUP, WFU)

**SW-10:** Plan and implement projects consistent with compliance strategies for restoring or maintaining the restoration of water quality impaired [303(d) listed] water bodies. Planned activities should take into account the potential impacts on water quality, including increased water yields that can threaten fisheries and aquatic habitat; improvements at channel crossings; channel stability; and downstream values. Of special concern are small headwaters of moderate to steep watersheds, erosive or saline soils; multiple channel crossings; at-risk fisheries, and downstream residents. (RX, NF, ESR)

#### L.3.1.3 MEASURES DESIGNED TO PROTECT VEGETATION INCLUDE:

**V-1:** When restoring or rehabilitating disturbed rangelands, non-intrusive, non-native plant species are appropriate for use when native species:

(1) are not available;

(2) are not economically feasible;

(3) cannot achieve ecological objectives as well as non-native species; and/or

(4) cannot compete with already established native species. (RX, NF, ESR)

**V-2:** In areas known to have weed infestations, aggressive action should be taken in rehabilitating fire lines, seeding and follow-up monitoring and treatment to reduce the spread of noxious weeds. Monitor burned areas and treat as

necessary. All seed used would be tested for purity and for noxious weeds. Seed with noxious weeds would be rejected. (SUP, WFU, RX, NF, ESR)

### L.3.1.4 MEASURES DESIGNED TO PROTECT SPECIAL STATUS SPECIES (INCLUDING THREATENED AND ENDANGERED SPECIES) INCLUDE:

**SSS-1:** Initiate emergency Section 7 consultation with United States Fish and Wildlife Service (Service) upon the determination that wildfire suppression may pose a potential threat to any listed threatened or endangered species or adverse modification of designated critical habitat. (SUP)

**SSS-2**: Prior to planned fire management actions, survey for listed threatened, endangered, and non-listed sensitive species. Initiate Section 7 consultation with the Service as necessary if a proposed project may affect any listed species. Review appropriate management, conservation and recovery plans and include recovery plan direction into project proposals. For non-listed special status plant and animal species, follow the direction contained in the BLM 6840 Manual. Ensure that any proposed project conserves non-listed sensitive species and their habitats and ensure that any action authorized, funded, or carried out by BLM does not contribute to the need for any species to become listed. (RX, NF, ESR)

**SSS-3**: Incorporate site-specific conservation measures identified in this BA. (SUP, WFU, RX, NF, ESR)

### L.3.1.5 MEASURES DESIGNED TO PROTECT FISH AND WILDLIFE RESOURCES INCLUDE:

**FW-1**: Avoid treatments during nesting, fawning, spawning, or other critical periods for wildlife or fish. (RX, NF, ESR)

**FW-2:** Avoid if possible or limit the size of, wildland fires in important wildlife habitats such as, mule deer winter range, riparian and occupied sage grouse habitat. Use Resource Advisors to help prioritize resources and develop Wildland Fire Situation Analyses (WFSAs) and Wildland Fire Implementation Analyses (WFSAs) and Wildland Fire Implementation Plans (WFIPs) when important habitats may be impacted. (SUP, WFU)

**FW-3**: Minimize wildfire size and frequency in sagebrush communities where sage grouse habitat objectives will not be met if a fire occurs. Prioritize wildfire suppression in sagebrush habitat with an understory of invasive, annual species. Retain unburned islands and patches of sagebrush unless there are compelling safety, private property and resource protection or control objectives at risk. Minimize burn out operations (to minimize burned acres) in occupied sage-grouse habitats when there are not threats to human life and/or important resources. (SUP)

**FW-4:** Establish fuel treatment projects at strategic locations to minimize size of wildfires and to limit further loss of sagebrush. Fuel treatments may include green stripping to help reduce the spread of wildfires into sagebrush communities. (RX, NF)

**FW-5:** Use wildland fire to meet wildlife objectives. Evaluate impacts to sage grouse habitat in areas where wildland fire use for resource benefit may be implemented. (WFU, RX)

**FW-6:** Create small openings in continuous or dense sagebrush (>30% canopy cover) to create a mosaic of multiple-age classes and associated understory diversity across the landscape to benefit sagebrush-dependent species. (WFU, RX, NF)

**FW-7:** On sites that are currently occupied by forests or woodlands, but historically supported sagebrush communities, implement treatments (fire, cutting, chaining, seeding, etc.) to re-establish sagebrush communities. (RX, NF)

**FW-8:** Evaluate and monitor burned areas and continue management restrictions until the recovering and/or seeded plant community reflect the desired condition. (SUP, WFU, RX, ESR)

**FW-9:** Utilize the Emergency Stabilization and Rehabilitation program to apply appropriate post fire treatments within crucial wildlife habitats, including sage grouse habitats. Minimize seeding with non-native species that may create a continuous perennial grass cover and restrict establishment of native vegetation. Seed mixtures should be designed to re-establish important seasonal habitat components for sage grouse. Leks should not be re-seeded with plants that change the vegetation heights previously found on the lek. Forbs should be stressed in early and late brood-rearing habitats. In situations of limited funds for emergency stabilization and rehabilitation actions, prioritize rehabilitation of sage grouse habitats. (ESR)

#### L.3.1.6 MEASURES DESIGNED TO PROTECT WILD HORSES AND BURROS INCLUDE:

**WHB-1:** Avoid fencing that would restrict access to water. (RX, NF, ESR)

#### L.3.1.7 MEASURES DESIGNED TO PROTECT CULTURAL RESOURCES INCLUDE:

**CR-1:** Cultural Resource Advisors should be contacted when fires occur in areas containing sensitive cultural resources. (SUP)

**CR-2:** Wildland fire use is discouraged in areas containing sensitive cultural resources. A Programmatic Agreement is being prepared between the Utah State Historic Preservation Office, BLM, and the Advisory Council to cover the finding of adverse effects to cultural resources associated with wildland fire use. (WFU)

**CR-3:** Potential impacts of proposed treatments should be evaluated for compliance with the National Historic Preservation Act (NHPA) and the Utah Statewide Protocol. This should be conducted prior to the proposed treatment. (RX, NF, ESR)

#### L.3.1.8 MEASURES DESIGNED TO PROTECT PALEONTOLOGY RESOURCES INCLUDE:

**P-1:** Planned projects should be consistent with BLM Manual and Handbook H-8270-1, Chapter III (A) and III (B) to avoid areas where significant fossils are

known or predicted to occur or to provide for other mitigation of possible adverse effects. (RX, NF, ESR)

**P-2:** In the event that paleontological resources are discovered in the course of surface fire management activities, including fires suppression, efforts should be made to protect these resources. (SUP, WFU, RX, NF, ESR)

#### L.3.1.9 MEASURES DESIGNED TO PROTECT FORESTRY RESOURCES INCLUDE:

**F-1:** Planned projects should be consistent with HFRA Section 102(e)(2) to maintain or contribute to the restoration of old-growth stands to a pre-fire suppression condition and to retain large trees contributing to old-growth structure. (SUP, WFU, RX, NF)

**F-2:** During planning, evaluate opportunities to utilize forest and woodland products prior to implementing prescribed fire activities. Include opportunities to use forest and woodland stands, consider developing silvicultural prescriptions concurrently with fuel treatments prescriptions. (RX, NF)

#### L.3.1.10 MEASURES DESIGNED TO PROTECT LIVESTOCK GRAZING RESOURCES INCLUDE:

**LG-1:** Coordinate with permittees regarding the requirements for non-use or rest of treated areas. (SUP, WFU, RX, NF, ESR)

**LG-2:** Rangelands that have been burned by wildfire, prescribed fire, or wildland fire use, would be ungrazed for a minimum of one complete growing season following the burn. (SUP, WFU, RX)

**LG-3:** Rangelands that have been re-seeded or otherwise treated to alter vegetation composition, chemically or mechanically, would be ungrazed for a minimum of two complete growing seasons. (RX, NF, ESR)

#### L.3.1.11 MEASURES DESIGNED TO PROTECT RECREATION AND VISITOR SERVICES INCLUDE:

**Rec-1:** Wildland fire suppression efforts would preferentially protect Special Recreation Management Areas and recreation site infrastructure in line with fire management goals and objectives. (SUP)

**Rec-2:** Vehicle tracks created off of established routes would be obliterated after fire management actions in order to reduce unauthorized OHV travel. (SUP, WFU, RX, NF, ESR)

#### L.3.1.12 MEASURES DESIGNED TO PROTECT LAND AND REALITY RESOURCES INCLUDE:

**LR-1:** Fire management practices would be designed to avoid or otherwise ensure the protection of authorized rights-of-way and other facilities located on the public lands, including coordination with holders of major rights-of-way systems within rights-of-way corridors and communication sites. (WFU, RX, NF, ESR)

**LR-2:** Fire management actions must not destroy, deface, change or remove to another place any monument or witness tree of the Public Land Survey System. (SUP, WFU, RX, NF, ESR)

#### L.3.1.13 MEASURES DESIGNED TO MINIMIZE IMPACTS CONFOUNDED BY HAZARDOUS WASTE INCLUDE:

**HW-1:** Recognize hazardous wastes and move fire personnel to a safe distance from dumped chemicals, unexploded ordnance, drug labs, wire burn sites, or any other hazardous wastes. Immediately notify BLM Field Office hazmat coordinator or state hazmat coordinator upon discovery of any hazardous materials, following the BLM hazardous materials contingency plan. (SUP, WFU, RX, NF, ESR)

#### L.3.1.14 MEASURES DESIGNED TO PROTECT MINERAL RESOURCES INCLUDE:

**M-1:** A safety buffer should be maintained between fire management activities and at-risk facilities. (SUP, WFU, RX)

#### L.3.1.15 MEASURES DESIGNED TO PROTECT WILDERNESS AND WILDERNESS STUDY AREAS (WSAS) INCLUDE:

**Wild-1:** The use of earth-moving equipment must be authorized by the field office manager. (SUP, WFU, RX, ESR)

**Wild-2:** Fire management actions would rely on the most effective methods of suppression that are least damaging to wilderness values, other resources and the environment, while requiring the least expenditure of public funds. (SUP, WFU)

**Wild-3:** A Resource Advisor should be consulted when fire occurs in Wilderness and WSAs. (SUP, WFU)

### *L.3.2 ADDITIONAL RESOURCE PROTECTION MEASURES*

In addition to the Resource Protection Measures listed under the LUP, the Vernal Support Center has instituted the following measures into their FMP.

#### L.3.2.1 MEASURES DESIGNED TO PROTECT CULTURAL RESOURCES INCLUDE:

**CR-4:** The implementation of ground-disturbing wildland fire suppression activities and wildland fire use will be prohibited or curtailed in areas where significant and sensitive cultural resource sites are known or suspected to occur. The application of fire retardant will be prohibited in areas known or suspected to contain rock art. (SUP, WFU)

**CR-5:** If prudent and feasible, areas of traditional cultural concern to Native American groups will be protected during wildland fire suppression activities. If areas of traditional cultural concern are impacted by wildland fires or wildland fire suppression, the BLM would work with affected parties to mitigate impacts. (WFU, RX, SUP)

**CR-6:** If Native American human remains are discovered on BLM lands during wildland fire suppression, wildland fire use, prescribed fire, non-fire fuels treatments, and emergency stabilization and rehabilitation activities, the BLM will follow procedures identified in the Native American Graves Protection and Repatriation Act and 43 CFR Part 10. If BLM fire suppression activities or emergency stabilization and rehabilitation activities extend onto private or state land, and Native American human remains are discovered, the provisions of the appropriate state laws will be adhered to. (SUP, WFU, RX, NF, ESR)

**CR-7:** Previously unidentified cultural resources that are identified during the course of project implementation will be avoided until they are documented, evaluated, appropriate notification procedures have been accomplished, and proper management recommendations and requirements have been agreed upon. (SUP, WFU, RX, NF, ESR)

#### L.3.2.2 MEASURES DESIGNED TO PROTECT NATIVE AMERICAN RELIGIOUS CONCERNS INCLUDE:

**NAT-1:** Consultation will be completed on a site-by-site basis. (SUP, WFU, RX, NF, ESR)

#### L.3.2.3 MEASURES DESIGNED TO PROTECT WATER QUALITY INCLUDE:

**SW-4:** Plan and implement projects taking into account the potential impacts on water quality, including increased water yields that can threaten fisheries and aquatic habitat, improvements at channel crossings, channel stability, and downstream values. Of special concern are small headwaters of moderate to steep watersheds, erosive soils, multiple channel crossings, at-risk fisheries, and downstream residents. (SUP, WFU, RX, NF, ESR)

#### L.3.2.4 MEASURES DESIGNED TO PROTECT WILDERNESS AND WILDERNESS STUDY AREAS (WSAS) INCLUDE:

**Wild-4:** Minimum Impact Suppression Tactics (MIST) must be employed in the FMU to preserve the Wilderness Study Unit present. (SUP)

**Wild-5:** Restoration and rehabilitation techniques will be developed that are consistent with guidelines described in BLM Handbook 8550-1 Interim Management Policy for Lands under Wilderness Review. (ESR)

#### L.3.2.5 MEASURES DESIGNED TO PROTECT FISH AND WILDLIFE RESOURCES INCLUDE:

**FW-10:** Seed mixtures should be designed to reestablish important seasonal habitat components for sage grouse. Leks should not be reseeded with plants that change the vegetation height previously found on the lek. Forbs should be stressed in early and late brood-rearing habitats. In situations of limited funds for emergency stabilization and rehabilitation actions, prioritize rehabilitation of sage grouse habitats. (ESR)

**FW-11:** Vegetation treatments would consider the Western Association of Fish and Wildlife Agencies Guidelines for Management of Sage Grouse Populations and Habitats and State and Local Conservation Plans. This is in accordance with the Memorandum of Understanding among the Western Association of Fish and Wildlife Agencies, Forest Service, Bureau of Land Management, and U.S. Fish and Wildlife Service regarding sage grouse management. (WFU, RX, NF, ESR)

## *L.3.3 OTHER MANAGEMENT PRACTICES*

Other Management Practices are specific measures and practices which are considered at the project-specific level, on a case by case basis. These practices should be implemented wherever possible, to reduce possible adverse affects, advance the protection, conservation, and recovery of special status species. The management practices would allow flexibility for resource managers to implement protective measures for special status species.

### L.3.3.1 CULTURAL RESOURCES AND PALEONTOLOGICAL RESOURCES

Archeologists can be educated and taught how to identify special status species in order to avoid trampling during excavations and fence construction efforts.

### L.3.3.2 ENERGY AND MINERAL DEVELOPMENT

Surface restrictions should be placed in and around known populations of special status species.

### L.3.3.3 FIRE MANAGEMENT

Areas should also be analyzed when a wildfire determination is being made to either let it burn or suppress the fire.

### L.3.3.4 FORESTRY AND WOODLANDS RESOURCE MANAGEMENT

Individuals obtaining permits for posts, firewood, and Christmas trees would be directed to areas that do not contain known occupied habitat of special status species.

### L.3.3.5 LANDS AND REALTY MANAGEMENT

Road construction, maintenance and right-of-way corridors shall be restricted in known populations of special status species.

### L.3.3.6 RECREATION

OHV use should be designated as limited to existing roads and trails where known special status species populations exist.

### L.3.3.7 VEGETATION RESOURCE MANAGEMENT

The use of herbicides, chemical treatments and habitat manipulations should be restricted within special status species populations and habitat.

### L.3.3.8 WILD HORSE AND BURRO MANAGEMENT

The herding and trapping of wild horses and burros in special status species populations and habitat should be avoided to reduce additional trampling caused by such activities.